

REMARKS

The Office Action mailed April 19, 2007 has been carefully considered.

Claims 11 through 13 and 18 through 20 have been rejected under 35 USC 103(a) over Applicant's admitted prior art in view of Abe et al, while Claims 14 through 17 and 21 through 23 have been rejected over Applicant's admitted prior art and Abe et al in view of Brown et al.

The invention is directed to a method for making a flexible tube skirt in which a preformed planar web of predetermined initial thickness is obtained from at least one plastic or metal layer, formed into a cylindrical sleeve and cut to a predetermined length to form the skirt. As pointed out in the Office action, these steps are indeed well known in the art. Claim 11 has been amended to better recite the various compositions possible for the web, including a metallocplastic material, as disclosed in the specification at page 10, line 18- page 11, line 21, and in Example 1.

According to the invention, prior to forming the cylindrical sleeve, the planar web is passed between two rolls moving relative to each other, with a space between the two rolls defining an air gap having a dimension less than the predetermined initial thickness of the web, whereby the web is subjected to a plastic deformation as it passes between the rolls.

The Office Action alleges that the admitted prior art discloses all of the claimed limitations except for passing the web between the two rollers where the gap between the two rollers is less than the thickness of the web, and goes on to state: "However, Abe et al teach to pass the web (9, Fig. 6) between two rollers (1, 2, Fig. 6) wherein the space (gap) between the two rollers is less than the thickness of the web

(see col. 3, lines 62-65; col. 4, lines 60-63) to improve the surface quality, such as smoothness and gloss, of paper sheet (see col. 1, lines 7-9). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to pass the web prior to forming the cylindrical sleeve in the method of APA between the two rollers wherein the space (gap) between the two rollers is less than the thickness of the web as taught by Abe et al to improve the surface quality, such as smoothness and gloss of paper sheet".

The problem with this analysis is that the claimed invention does not pass paper sheets between the rollers, and Abe et al does not teach a process in which the sheets which pass between the rollers are used to form flexible tube skirts. Indeed, Abe et al teaches calendering paper sheets, whereas the claimed invention is directed to the use of plastic and metal sheets for forming tubes. Moreover, Applicant has discovered that it is advantageous to pass plastic and metal sheets used for forming tubes between metal rollers for reasons which are not at all suggested by Abe et al.

According to the invention, the prior plastic deformation greatly improves the mechanical behavior of the sheet in its capacity to be shaped into a cylinder of circular section, as opposed to a drop-shaped section when it emerges from the shaping device. This greater capacity of the web for being shaped into a regular cylinder is due to the less frequent occurrence of later undulations on the edges of the web and to an elastic rigidity of the web that is more significant in the longitudinal direction and more homogenous in the transverse direction. The prior plastic deformation makes the stiffness of the web more uniform, and when embossing occurs, creates

evenly distributed raised surfaces and/or depressions, increasing the rigidity of the web both in longitudinal and transverse directions.

The advantages of the claimed invention are established in Examples 1 and 2 of the present specification. In the table at the bottom of page 15, it can be seen that the ratio of the orthogonal diameters for an unembossed metalloplastic tube is 0.95, while the ratio of the orthogonal diameters for an embossed tube is 0.99, which is much closer to round. Moreover, the rebound properties for the embossed tubes are much higher, as can be seen from the table on page 16.

Similar results are apparent from the tables on pages 17 and 19 representing Example 2 where the tube is a plastic tube.

Applicant has thus established that when used in conjunction with the formation of tubes, the passing of a planar plastic and/or metal web between moving rolls provides an entirely unexpected benefit, which is unrelated to the improvement in smoothness and gloss for a paper sheet, as taught by Abe et al.

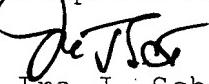
The Brown et al reference has been cited to show embossing and calendering paper bathroom tissue in a simultaneous operation, and also does not disclose or suggest embossing and calendering a plastic and/or metal web in conjunction of the formation of a tube.

Withdrawal of these rejections is accordingly requested.

Applicant submits herewith a Form PTO-1449 listing two references cited in the prosecution of the corresponding Russian application. These references were cited in an Action dated May 10, 2007, and hence have been known to Applicant for less than three months.

In view of the foregoing remarks, Applicant submits that the present application is now in condition for allowance. An early allowance of the application is earnestly solicited.

Respectfully submitted,



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